



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/837,902	04/18/2001	Hui Wang	ACMR-001-02US	1040
20872	7590	11/16/2005	EXAMINER	
MORRISON & FOERSTER LLP 425 MARKET STREET SAN FRANCISCO, CA 94105-2482			LEADER, WILLIAM T	
			ART UNIT	PAPER NUMBER
			1742	
DATE MAILED: 11/16/2005				

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

09/837,902

Applicant(s)

WANG, HUI

Examiner

William T. Leader

Art Unit

1742

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 22 August 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 110-159 is/are pending in the application.
- 4a) Of the above claim(s) 111-115, 120-138, 140-142 and 149-156 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 110, 116-119, 139, 143-148 and 157-159 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

### DETAILED ACTION

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on August 22, 2005, has been entered.

2. Claims 110-159 are pending. In the paper filed on April 23, 2004, applicant elected species 1 and identified claims 110 and 116-119 as reading on the elected species. In the paper filed on February 25, 2005, applicant indicated that additionally filed claims 139, 143-148 and 157-159 read on the elected species. Claims 111-115, 120-138, 140-142 and 149-156 are withdrawn from consideration. Claims 110, 116-119, 139, 143-148 and 157-159 are under consideration.

3. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

4. Claims 110, 116-119, 139, 143-148 and 157-159 are rejected under 35 U.S.C. 102(b) as being anticipated by Japanese patent publication 4-311591 for the reasons given in the previous office action and in view of the following comments.

5. Applicant's Remarks have been carefully considered but are not deemed to be persuasive. At page 11 applicant states that the film in the Hirohiko reference is plated across the entire surface of the wafer at one time. Even if this contention were considered to be correct, it is not seen as distinguishing the instant claims as amended from the teaching of Hirohiko. Instant independent claims 110 and 139 are written in open form using the term "comprising". In this type of open claim construction, the claim is open to process steps in addition to those positively recited. Applicant has amended claim 110 to recite the step of plating the film to the desired thickness on at least a second portion of the substrate surface at a different radial location than the first portion to give a film at the desired thickness on the substrate "after plating the film on the first portion of the substrate surface". Claim 139 has been similarly amended. The newly added limitation is considered to require a temporal difference in plating on the first and second portions. That is, plating on a second portion takes place after plating on the first portion. Since the claim is written in open form, the claim as amended is not seen as precluding deposition on the second portion while deposition is being carried out on the first

portion. Similarly, the claim as amended is not seen as precluding continued deposition on the first portion while the second portion is being plated.

6. The expression "desired thickness" is considered to include any thickness between the initial deposition thickness and the final thickness obtained at the end of the process. Therefore, while the "desired thickness" may be the final thickness, the expression is not seen as limited to the final thickness. Thus, in a process in which the entire surface is simultaneously plated, a first portion is plated to some desired thickness, while the second portion is simultaneously plated. Hirohiko indicates that precise control is needed if a plating film of precisely uniform film quality, composition and film thickness on a wafer is to be obtained. Because control may not be sufficiently precise to obtain perfectly uniform deposition at all radial position, the second portion may be plated at a slightly slower rate than the first portion. In this case, as deposition across the entire substrate continues, the second portion reached the desired thickness at some time after the first portion as now recited. Consequently, the claim is considered to read on the Hirohiko, even if the reference is interpreted to disclose plating across the entire surface of the wafer at one time.


Any inquiry concerning this communication or earlier communications from the examiner should be directed to William T. Leader whose telephone number is


Art Unit: 1742

571-272-1245. The examiner can normally be reached on Mondays-Thursdays and alternate Fridays, 7:30-4:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Roy King, can be reached on 571-272-1244. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

  
William Leader  
November 8, 2005

  
ROY KING  
SUPERVISORY PATENT EXAMINER  
TECHNOLOGY CENTER 1700